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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,619	11/16/2001	Andrian P. Janssen	585-1033	5793

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EXAMINER

VALENTIN, JUAN D

ART UNIT PAPER NUMBER

2877

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/992,619	JANSSEN, ANDRIAN P.	
	Examiner	Art Unit	
	Juan D Valentin II	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                       |                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____                                                |

## **DETAILED ACTION**

### ***Drawings***

1. New corrected formal drawings are required in this application because the drawings are not formal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 4 & 5 objected to because of the following informalities: in line 1 of each claim the words "the or" follow wherein, Examiner is not sure what is meant by "the or"? Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 states "at least one reflector reflector means", but it is unclear from the language of claim 1 from which claim 7 is dependent, whether there is a single reflector means

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or a plurality of reflector means? Applicant is asked to please clarify the claim language in order to better read on Applicants claimed invention.

4. Claims 17 & 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 & 13 already discloses a first reflector means, it is unsure to what exactly is being claimed. There is no structure to the claims, but rather seems to be pure preamble. If Applicant chooses to add further and subsequent reflector means, then Applicant must distinguish each additional reflector means from the previously claimed devices in claims 1 & 13 respectively.

5. Claims 19 & 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 already discloses a first Mux/Demux and claim 12 discloses a first and second Mux/Demux, it is unsure to what exactly is being claimed. There is no structure to the claims, but rather seems to be pure preamble. If Applicant chooses to add further and subsequent Mux/Demux, then Applicant must distinguish each additional Mux/Demux from the previously claimed devices in claims 1 & 12 respectively.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1- 5 & 7-23 rejected under 35 U.S.C. 102(e) as being fully anticipated by Aksyuk et al. (USPN '657 B1, hereinafter Aksyuk).

**Claim 1**

Aksyuk in conjunction with Fig. 1, discloses an optical attenuation device 100 comprising an input/output 131 on which a multiplexed optical input stream is received, a multiplexer/de-multiplexer (MUX/DEMUX) 101 for separating the received stream into individual optical signals on individual channels 105, an output/return path from the MUX/DEMUX for each of the channels, reflector means 104 in each output/return path for reflecting all or a proportion of the optical signal on the respective channel back along the output/return path to the MUX/DEMUX, wherein the optical signals are re-combined by the MUX/DEMUX into a multiplexed stream which is output on the input/output 131 (col. 3, line 34-col. 4, line 6).

**Claim 2**

Aksyuk discloses an optical attenuation device wherein at least one reflector means comprises a MEMS actuated mirror (col. 3, lines 38-39).

**Claims 3, 4, & 5**

Aksyuk discloses an optical attenuation device wherein each mirror is displaced longitudinally, transversely or angularly thereby to control the proportion of individual optical signal reflected, wherein each mirror is electrostatically actuated, and fabricated using semiconductor substrates (col. 3, lines 43-46 & col. 4, lines 26-43).

**Claims 7**

Aksyuk discloses an optical attenuation device wherein at least one reflector means comprises a mirror in combination with a controllable, optically absorbing material (col. 5, lines 15-18).

**Claims 8 & 9**

Aksyuk discloses an optical attenuation device wherein the MUX/DEMUX is a planar waveguide and fabricated from semi-conductor material substrates (col. 3, lines 39-46). It is implicit within the reference that the MUX/DEMUX of Aksyuk can be implemented using planar waveguides as well as with semi-conductor material substrates.

**Claim 10**

Aksyuk discloses an optical attenuation device further comprising a circulator or an entity of an equivalent function which enables the output multiplexed stream to be diverted on to a different branch from the input multiplexed stream (Fig. 1, ref. 131).

**Claim 11**

Aksyuk discloses in conjunction with Fig. 1, an optical attenuation device for attenuating a multiplexed optical stream comprising means for attenuating each of the individual optical signals of the stream in parallel (col. 3, line 34-col. 4, line 6).

**Claim 12**

Aksyuk discloses in conjunction with Fig. 4, an optical attenuation device 400 comprising an input 102 on which a multiplexed optical input stream is received, a first MUX/DEMUX 401 separating the received stream into individual optical signals on individual channels 407, an output path from the MUX/DEMUX for each of the channels 407, attenuator means 403 in each output path attenuating the optical signal on the respective channel, a return

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path from the attenuator means for each of the channels 408, a second MUX/DEMUX 406 at the ends of the return paths, and an output 126 from the second MUX/DEMUX, wherein the attenuated optical signals are combined at the second MUX/DEMUX into a multiplexed stream which is output on the output (col. 4, lines 44-60).

**Claims 13 & 14**

Aksyuk discloses an optical attenuation device wherein the attenuator means comprises reflector means such that attenuation is achieved by reflecting all or a proportion of the optical signal on the respective channel and wherein the attenuator means comprises transmission means such that attenuation is achieved by transmitting all or a proportion of the optical signal on the respective channel. (col. 4, line 61-col. 5, line 13).

**Claims 15 & 16**

Aksyuk discloses a method of attenuating a multiplexed optical stream comprising demultiplexing the stream thereby to separate the stream into individual optical signals, attenuating at least one of or all of the signals by reflection and multiplexing the attenuated signals thereby to combine the signals into a multiplexed stream (col. 3, line 34-col. 4, line 6).

**Claims 17 & 18**

Aksyuk discloses a reflector means for an optical attenuation device (Figs. 1 & 4, refs. 102 & 404, respectively).

**Claims 19 & 20**

Aksyuk discloses MUX/DEMUX for an optical attenuation device (Figs. 1 & 4, refs. 101, 401, & 406, respectively).

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**Claims 21, 22, & 23**

Aksyuk discloses an optical communications network incorporating at least one attenuation device (col. 3, lines 12-28).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Aksyuk in view of Goossen (USPN '155).

**Claim 6**

Aksyuk substantially teaches the claimed invention except that it fails to show wherein at least one reflector means comprises a MARS-type device including two mirrors arranged generally parallel to one another thereby to define a cavity with the relative spacing of the mirrors variable so as to control the proportion of optical signal reflected according to interference effects. Goossen shows that it is known to provide a MARS-type device including two mirrors arranged generally parallel to one another thereby to define a cavity with the relative spacing of the mirrors variable so as to control the proportion of optical signal reflected according to interference effects (col. 3, line 66-col. 4, line 35) for an variable optical attenuator. It would have been obvious to someone of ordinary skill in the art to combine the device of Aksyuk with the MARS device of Goossen for the purposes of providing variable optical



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attenuation in optical systems (WDM systems) to equalize light intensity of multiple beams (col. 8, lines 58-64). Accordingly, such modification would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

### *Conclusion*

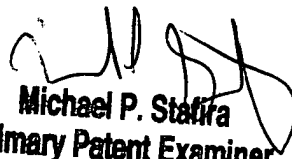
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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February 24, 2004



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